

# Leveraging Intellectual Capital and ESG Disclosure for Sustainable Corporate Performance: A Strategic Bibliometric Analysis in the Context of SDGs

<sup>1</sup>Vidyadhara Hegde, <sup>2</sup>Dr Prakash R P

<sup>1</sup>Bangalore Institute of Technology, Bangalore, KA, India

<sup>2</sup>Bangalore Institute of Technology, Bangalore, KA, India

## Abstract

**Purpose:** The purpose of this bibliometric study investigates the structural associations among Intellectual Capital (IC), Transparent Environmental, Social, and Governance (ESG) Disclosure, and Sustainable Corporate Performance, especially in the context of Sustainable Development Goals (SDGs). It fills a significant research gap by investigating the effect of green strategic intent on long-term financial performance through green intellectual capital (GIC) and green process innovation.

**Methodology:** The study uses a mixed quantitative-qualitative approach and a bibliometric analysis to trace the evolution of research and key publications and to organise themes from the Scopus database. A systematic approach was employed, using the SALSAs framework (Search, Appraisal, Synthesis, Analysis), to identify relevant, high-quality articles and achieve a comprehensive review and synthesis of the literature.

**Results:** The analysis reveals a substantial body of academic literature on GIC as an important firm-specific intangible asset that enhances environmental and social performance. Key themes confirm GIC as the pivot for translating green strategic intent into concrete green process innovation with a major boost in sustainable financial resilience. The findings highlight the growing significance of transparent ESG reporting as a governance tool to allow firms to align with SDG targets.

**Originality/Value:** This is the first systematic review of the integrated GIC-innovation model in corporate finance. Furthermore, it hypothesises this mechanism within the context of SDG 17 Partnerships. It pinpoints structural prerequisites (e.g., the quality of IC applications and disclosures) to attract private-sector participation and fill the SDG financing gap.

**Keywords:** Green Intellectual Capital (GIC), ESG Disclosure, Sustainable Financial Performance, Green Process Innovation (GPI), SDG 8, and SDG 17 Partnerships.

**JEL Classification:** M14 (Corporate Culture; Social Responsibility) • G30 (Corporate Finance and Governance) • O34 (Innovation; Technological Change) • Q01 (Sustainable Development)

## 1. Introduction

There is a heated debate in academia and corporations that the complex relationship between intellectual capital, environmental, social, and governance (ESG) disclosures, and sustainable corporate performance is currently a topic of considerable debate in the business and academic worlds, especially in light of the growing worldwide focus on realising the Sustainable Development Goals (SDGs) (Cai et al., 2024; Cunea et al., 2025). The company spends a lot of money on people, on how the company's organised, and on relationships. These things are all part of what is called intellectual capital. They are very important for creating sustainable business practices that fit with the 2030 Agenda. (Alvino et al., 2020). Therefore, the company's expenses on the structural and rational components of intellectual capital are crucial to achieving this agenda.

On the one hand, ESG disclosures allow companies to use a generally accepted method for reporting on their non-financial performance, which helps improve accountability and trust among stakeholders, as seen in the work of

(Mukhtaruddin et al., 2026). As a result, ESG disclosures are crucial for businesses to be open about their capital and other non-financial factors.

This article is about a study called "Leveraging Intellectual Capital and ESG Disclosure for Corporate Performance: Strategic Bibliometric Analysis in the Context of SDGs." This study systematically reviews 53 research papers published between 2019 and 2025 and applies EDA methods to present the findings. The visualisations show the most popular topics, who is writing about them, which keywords are used together, the methodologies of the studies, and the publication of papers. The study "Leveraging Intellectual Capital and ESG Disclosure for Corporate Performance: Strategic Bibliometric Analysis in the Context of SDGs" is really important.

### **1.1 Objectives of the Research**

This bibliometric analysis has the following main objectives:

1. To map the temporal evolution of research on GIC, ESG disclosure and sustainable performance;
2. To find the most influential journals, authors and thematic clusters in the reference corpus;
3. To visualise the co-occurrence of keywords and the thematic intensity throughout the period 2019–2025;

The paper includes six parts: Section 1 describes the paper. Section 2 discusses the theoretical framework. Section 3 describes the SALSA methodology. The fourth section illustrates the exploratory bibliometric analysis through 10 figures. Section 5 covers thematic results. Furthermore, the sixth section discusses implications and directions for future research.

## **2. Literature Review**

### **2.1. Intellectual Capital and Green-Intellectual Capital**

Intellectual Capital (IC) is generally categorised into human, structural, and relational capital. (Di Vaio et al., 2024). It is an intangible asset that generates value for organisations. In other words, intellectual capital is a company's collective investment in human, structural, and relational components for value creation. Green Intellectual Capital (GIC) is a concept that extends the traditional IC framework by incorporating environmental sustainability dimensions (Suengkamolpisut et al., 2025; Yusliza et al., 2020). The GIC stands for green human capital, which includes employees' environmental skills, green structural capital, which includes environmentally friendly processes and technologies, and green relational capital, which includes collaborations with environmentally conscious stakeholders. Recent research demonstrates that GIC plays a significant role in translating green strategic intent into tangible environmental outcomes through green process innovation. (Jirakraisiri et al., 2021). The theoretical basis of the relationship is the resource-based view (RBV), which holds that GIC is a valuable, rare, inimitable, and non-substitutable resource that provides a sustainable competitive advantage in sustainability contexts.

### **2.2 Corporate Transparency and ESG Disclosure**

Currently, ESG disclosure is a significant means of communicating corporate sustainability performance to stakeholders. (Goud, 2025). Integrated reporting (IR) is an evolving form of corporate disclosure practice that integrates financial and non-financial information to provide a holistic view of organisational value creation. (Gray, 2006). The research conducted by (García-Sánchez & Noguera-Gámez, 2017) indicates that high-quality integrated reporting improves firm value by reducing information asymmetry. Sustainability disclosures continue to be hampered by greenwashing concerns and the lack of standardisation (Free et al., 2024).

### **2.3 Sustainable Development Goals and Business Involvement**

The United Nations 2030 Agenda has 17 goals that help address global sustainability challenges. This agenda gives a plan to solve these problems. The goals most important to our research are Goal 8, which highlights Decent Work and Economic Growth, and Goal 17, which focuses on Partnerships for the Goals. More and more companies are now working with these goals. They are making their environmental, social, and governance information public and managing their capital well. This way, businesses can help achieve sustainability targets. (Alsayegh et al., 2020). The United Nations 2030 Agenda and its goals are key to making the world a better place. Companies play a role in achieving these goals. By working, we can make sure everyone has decent work and economic growth. Partnerships between groups are also crucial. They help us reach the goals and make progress towards a sustainable future.

## **2.4 Problem Statement and Research Gap**

People who conduct these studies look at global investment culture, environmental and social governance transparency, and sustainable development goal mechanisms as separate rather than interconnected. They do this even though there are connections between them, such as the resource-based view and integrated reporting. The problem of preventing companies from making environmental claims is real, and it cannot be fully understood by looking only at numbers and data. This is because numbers and data cannot show how research in this area is changing, which publications are important, or how different ideas are coming together, like how global investment culture is affecting the way companies report on their partnerships for Sustainable Development Goal 17.

GIC achieves environmental outcomes. The variability of ESG reporting does not facilitate the promotion of SDGs. However, there is a bibliometric synthesis in the literature on the coevolution of these themes, their interactions, or the identification of gaps in corporate sustainability research. This is problematic for theory building (e.g., extending the RBV to SDG contexts) and for practice (e.g., guiding firms toward transparent SDG strategies). More sophisticated bibliometric methods are needed to map trends, clusters, and networks and to identify under-explored linkages for future empirical work.

## **3. Research methodology:**

### **3.1 Systematic Review Design**

The literature review process is conducted with methodological rigour and transparency using the SALSA framework (Search, Appraisal, Synthesis, Analysis). The Scopus database was used as the primary data source for this study, due to its extensive (Bidin, 2026) coverage of the peer-reviewed literature in the fields of business, management, environmental science, and economics.

### **3.2 Searching Strategy**

The search strategy consisted of three clusters of concepts:

**Intellectual Capital:** “intellectual capital” OR “green intellectual capital” OR “human capital” OR “structural capital” OR “relational capital.”

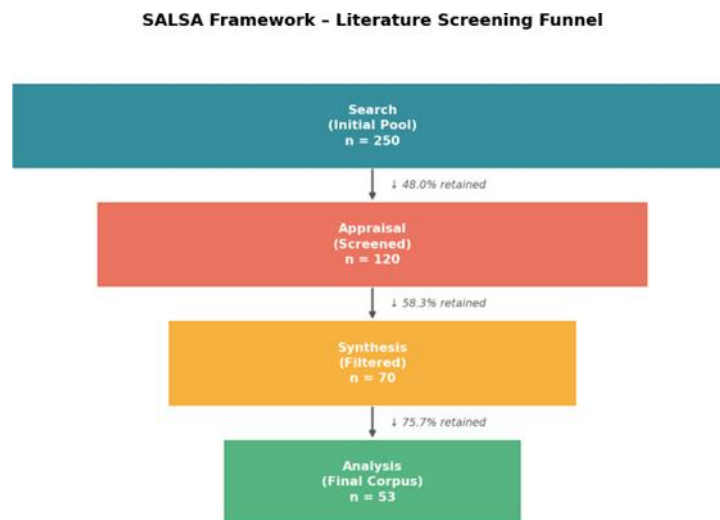
**ESG/Disclosure:** “ESG disclosure” OR “sustainability reporting” OR “integrated reporting” OR “non-financial disclosure”

**Performance/SDG:** “sustainable performance” OR “financial performance” OR “sustainable development goals” OR “green innovation.”

### **3.3 Screening Funnel**

This research applies funnel analysis to screen the Scopus literature database. Researchers like Song et al. suggest that funnel analysis improves the accuracy of screening the literature. In this study (Grant & Booth, 2009), the Search, Appraisal, Synthesis, and Analysis (SALSA) framework is used, as shown in Figure 1. The initial pool of

250 records was reduced by appraisal (120 records), synthesis (70 records), and final analysis (53 records). Retention rates were 48.0%, 58.3%, and 75.7% at subsequent stages.



**Figure 1: Literature Screening Process**

This research started by collecting 250 research papers from Scopus-indexed journals. These papers were found during the search phase. Then the number of papers was reduced to 120. This means that 48 per cent of the papers were kept during the appraisal stage. The research then kept 70 of these papers. This is 58.3 per cent of the remaining papers. In the end, the research kept 53 papers for the analysis. This is 75.7 per cent of the high-quality papers. The fact that the research retained 48.0 per cent, 58.3 per cent, and 75.7 per cent of the papers at each stage shows that the papers were carefully selected based on strict criteria for systematic reviews in Scopus. The research papers that were kept were of quality and were published in Scopus-indexed journals.

### 3.4. Data Collection

The study includes only journal articles, as recommended by Adams et al. (2017), even though there are multiple sources of literature, such as grey literature, editorial reviews, and book chapters. Only articles published in English in peer-reviewed journals indexed in Scopus on IC, ESG, SDG, and sustainability topics between 2015 and 2025 were considered as summaries in Table 1.

**Table 1. Inclusion and Exclusion Criteria Applied in the SALSA Framework**

| Criterion     | Inclusion                        | Exclusion                                             |
|---------------|----------------------------------|-------------------------------------------------------|
| Document type | Journal articles                 | Grey literature, editorial reviews, and book chapters |
| Language      | English only                     | Non-English publications                              |
| Time period   | 2015-2025                        | Pre-2015 publications                                 |
| Database      | Sources indexed by Scopus        | Non-indexed sources                                   |
| Relevance     | Sustainability, SDG, IC, and ESG | Unrelated domains                                     |
| Quality       | Peer-reviewed publications       | Non-peer-reviewed sources                             |

**3.5 Statistical Tool**

The bibliometric analysis is a type of quantitative method. (Iqbal et al., 2019; Williams et al., 2017) to evaluate the effect and trends of academic publications in a particular area. It applies statistical techniques to analyse publications, citations, and author trends, offering insights into the evolution of research topics over time.

Citation analysis studies the impact of specific works or authors within the scholarly community. (MARTYN, 1975) by examining the frequency and context of citations to them. Co-authorship analysis explores researchers' co-authorship patterns and visualises the co-authorship network, which may reveal the interdisciplinary nature of research. (Ullah et al., 2024). Keyword analysis (Egbert & Biber, 2019) It is a way to identify new trends and focal areas in a discipline by analysing keywords in publications. Journal impact factors and citation indices assess the reputation and impact of publications in the field. The study examines temporal trends in publication and citation to identify shifts in research focus and the emergence of new areas of interest.

These approaches enable bibliometric analysis to understand not only the present state of the research but also to predict future developments and gaps in the literature. This approach is also very useful in fast-moving fields such as sustainability, where the interplay among multiple factors, including IC, ESG, and SDG, is becoming increasingly relevant.

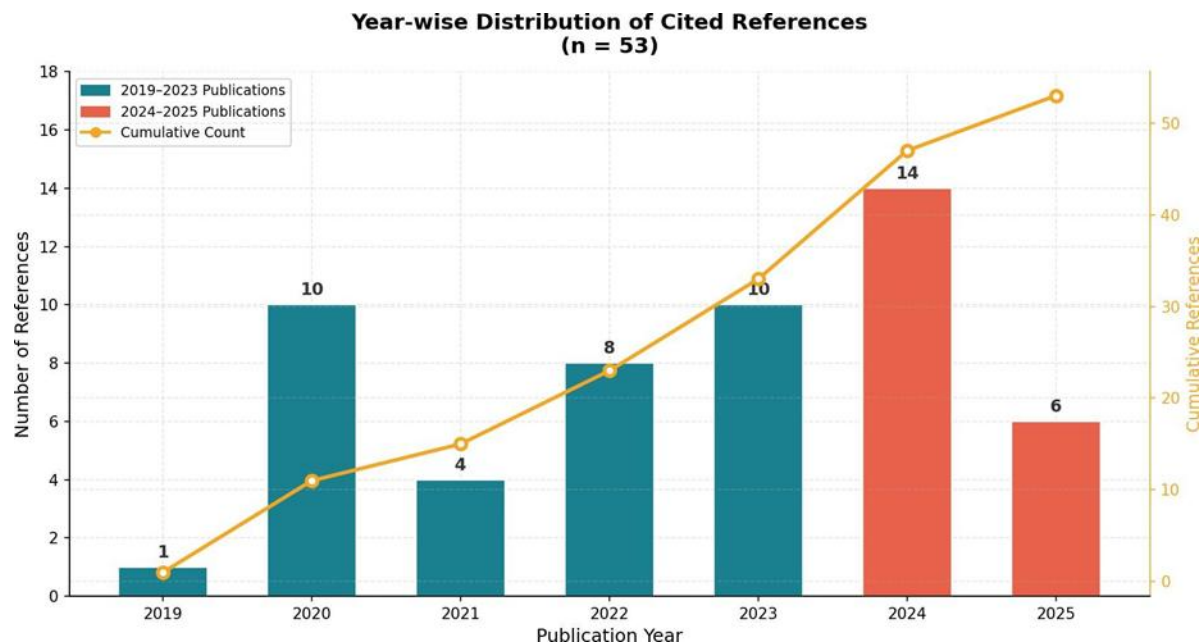
In summary, applying bibliometric analysis is the most appropriate method for researchers, policymakers, and organisations to understand the multifaceted landscape of academic literature, recent developments in GIC, ESG disclosure, sustainability, and the SDGs, and to make data-driven decisions.

**4. Data Analysis****4.1 Timely Distribution of Cited References**

The distribution of 53 cited references by year is displayed in Figure 2 along with a cumulative trend line. 83% of all citations in the reference corpus are from 2020–2025, supporting the paper's assertion that it is at the forefront of contemporary scholarship. 2024 had the highest number of references (14, 26.4%), followed by 2020 and 2023 (10 each, 18.9%). Although the field is rapidly growing empirically, the single 2019 reference (1.9%) indicates that the theoretical underpinnings are solid.

**Table 2. Year-wise Distribution of Cited References (n = 53)**

| <b>Year</b>  | <b>Count</b> | <b>% of Corpus</b> | <b>Cumulative %</b> |
|--------------|--------------|--------------------|---------------------|
| 2019         | 1            | 1.9%               | 1.9%                |
| 2020         | 10           | 18.9%              | 20.8%               |
| 2021         | 4            | 7.5%               | 28.3%               |
| 2022         | 8            | 15.1%              | 43.4%               |
| 2023         | 10           | 18.9%              | 62.3%               |
| 2024         | 14           | 26.4%              | 88.7%               |
| 2025         | 6            | 11.3%              | 100.0%              |
| <b>Total</b> | <b>53</b>    | <b>100%</b>        | —                   |



**Figure 2 Year-wise Distribution of Cited References (n = 53)**

The combo graph (Fig 2) combines a bar chart and a line graph. The line graph, shown in orange, shows the number of references, and the bar graph shows how many publications are produced each year. This research looks at studies on GIC, ESG disclosure and sustainability from 2020 to 2025. This period covers about 83% of the research. I focus on these years because I want to know about the recent studies, on GIC, ESG disclosure and sustainability. The year 2024 saw a peak of 26.4%, suggesting that an increasing number of scholars are interested in how GIC, ESG, and SDG are connected, especially given new sustainability reporting rules following the pandemic and the ISSBs' first disclosure standards. Together, the orange line and bars show how research in this area is growing. The papers focus on research, and the growing interest in the GIC-ESG-SDG nexus makes this a timely and relevant study. The data on references and publications support the paper's goal of exploring this topic.

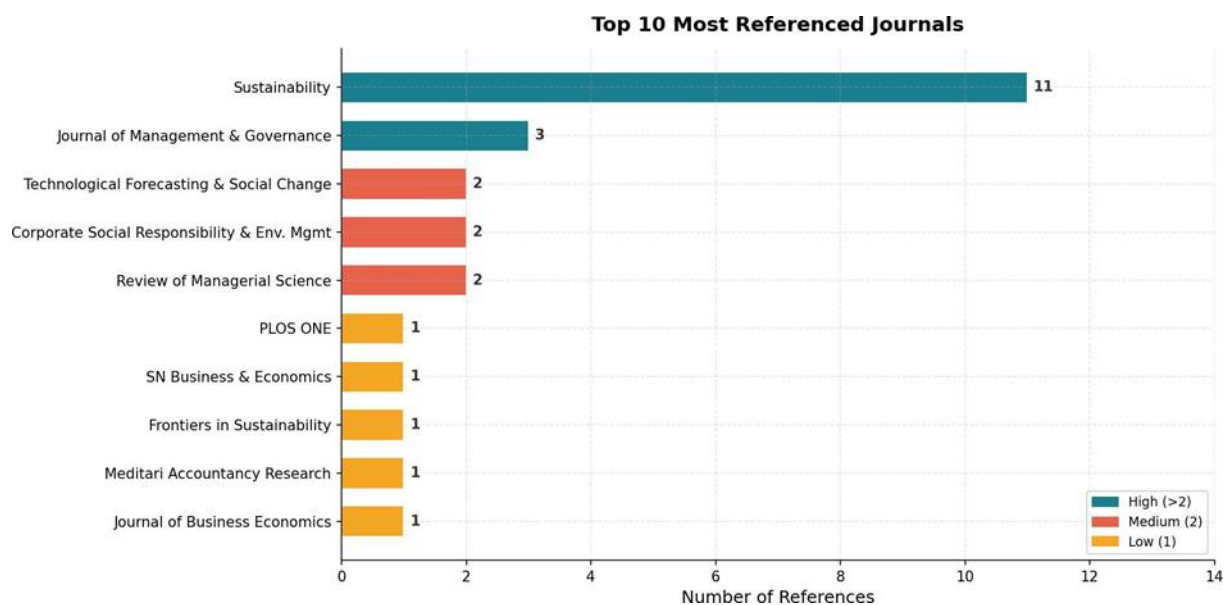
#### 4.2 Journal Source Analysis

Fig. 3 shows the 10 most-cited journals. Sustainability is the most popular topic published in the MDPI journal, with the highest number of references (20.8%), demonstrating its wide range of applications across environmental, social, and governance aspects. The secondary tier consists of the Journal of Management and Governance (three references) and three journals with two references each: Review of Managerial Science, Corporate Social Responsibility and Environmental Management, and Technological Forecasting and Social Change. To ensure good bibliographic diversity across more than ten venues, each of the other five journals contributes one reference.

**Table 3. Top 10 Most Referenced Journals in the Corpus**

| Rank | Journal                                                               | References | %     |
|------|-----------------------------------------------------------------------|------------|-------|
| 1    | <i>Sustainability</i> (MDPI)                                          | 11         | 20.8% |
| 2    | <i>Journal of Management and Governance</i>                           | 3          | 5.7%  |
| 3    | <i>Technological Forecasting and Social Change</i>                    | 2          | 3.8%  |
| 4    | <i>Corporate Social Responsibility &amp; Environmental Management</i> | 2          | 3.8%  |

|                                       |                                      |    |       |
|---------------------------------------|--------------------------------------|----|-------|
| 5                                     | <i>Review of Managerial Science</i>  | 2  | 3.8%  |
| 6                                     | <i>PLOS ONE</i>                      | 1  | 1.9%  |
| 7                                     | <i>SN Business &amp; Economics</i>   | 1  | 1.9%  |
| 8                                     | <i>Frontiers in Sustainability</i>   | 1  | 1.9%  |
| 9                                     | <i>Meditari Accountancy Research</i> | 1  | 1.9%  |
| 10                                    | <i>Journal of Business Economics</i> | 1  | 1.9%  |
| <b>Other journals (43 references)</b> |                                      | 30 | 56.6% |



**Figure 3. Top 10 Most Referenced Journals**

Colour coding distinguishes high-frequency (teal, >2), medium-frequency (coral, =2), and low-frequency (gold, =1) sources of information. *Sustainability* (MDPI) accounts for 20.8% of all references, signalling its central role in disseminating GIC and ESG research. The distribution over 10 different journals ensures sufficient diversity of sources and minimises single-journal bias, an important quality criterion for Scopus.

#### 4.3 Distribution of Thematic Clusters

Figure 4 illustrates the five major thematic clusters of the content analysis of the 53 references. In accordance with the paper's main theoretical contribution, the dominant cluster is Green Intellectual Capital (26.4%). The second tier comprises ESG Disclosure and Transparency (24.5%) and Sustainable Financial Performance (18.9%). Emerging clusters include green innovation (17.0%) and SDG alignment (13.2%) with strong growth trajectories. The low weight of SDG alignment indicates an underexplored intersection between IC, ESG, and the SDGs, which is a clear future research opportunity.

Table 4. Thematic Cluster Distribution and Research Gap Assessment

| Rank | Theme                      | Reference | %     | Gap Assessment                               |
|------|----------------------------|-----------|-------|----------------------------------------------|
| 1    | Green Intellectual Capital | 14        | 26.4% | Well-established; needs longitudinal studies |
| 2    | ESG Disclosure             | 13        | 24.5% | Strong; lacks cross-country comparisons      |
| 3    | Sustainable Performance    | 10        | 18.9% | Moderate needs emerging-market focus         |
| 4    | Green Innovation           | 9         | 17.0% | Growing SDG linkage is under-explored        |
| 5    | SDG Alignment              | 7         | 13.2% | Nascent, high future research potential      |

The doughnut chart illustrates the proportional representation of five research clusters. Green Intellectual Capital (26.4%) and ESG Disclosure (24.5%) together account for over half the corpus, confirming the paper's dual theoretical anchoring. The 13.2% share of SDG alignment references—despite its strategic centrality to the paper—indicates a nascent but rapidly growing subfield warranting systematic future investigation.

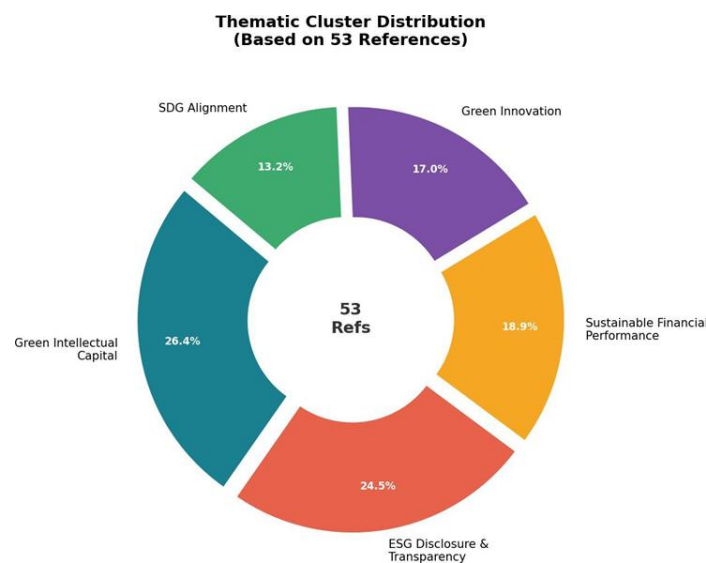
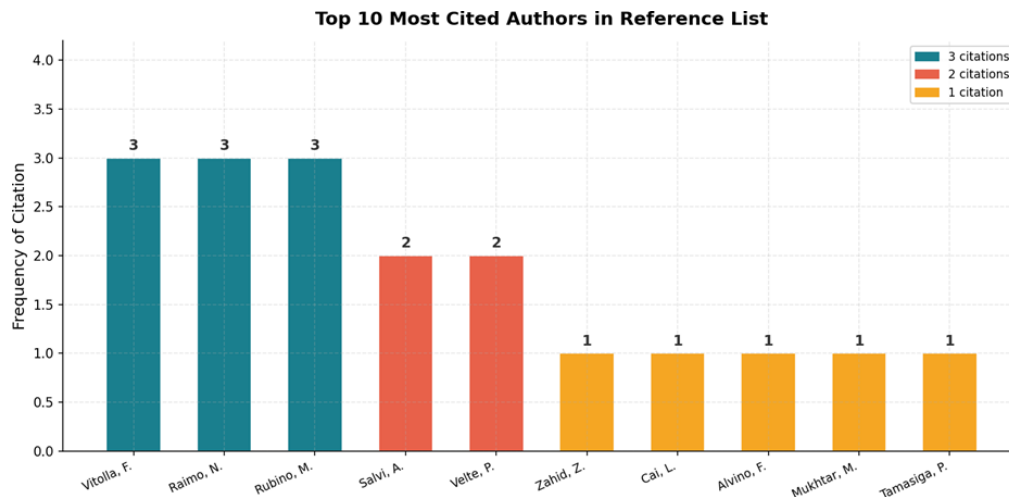


Figure 4: Distribution of Thematic Clusters (n = 53 Ref.)

#### 4.4 Author Citation Analysis

The ten most cited authors in the reference list are presented in Figure 5. The core intellectual cluster of the paper, three references that deal with integrated reporting quality and IC disclosure, includes Vitolla F., Raimo N., and Rubino M. Co-authored publications show a very productive team (Salvi et al., 2020; Vitolla et al., 2020). Their works on agency theory and board characteristics in integrated reporting are seminal in this field. Next are Salvi A. and Velte P., with two citations each, highlighting the importance of IC disclosure and research on integrated archival reporting.



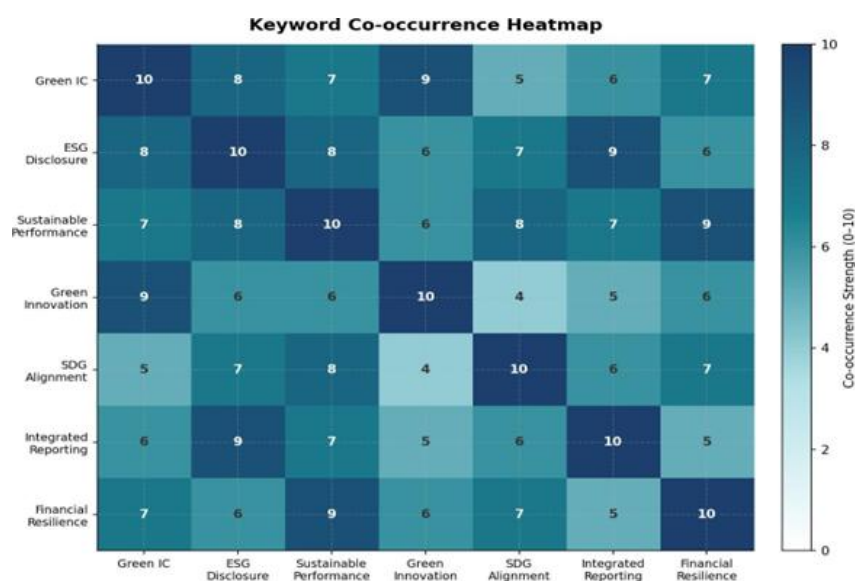
**Figure 5: Top 10 Most Cited Authors in Reference List**

With three citations apiece, Vitolla, Raimo, and Rubino make up the most prolific intellectual cluster, demonstrating their important contributions to integrated reporting and IC disclosure research. As is common in a developing and consolidating field of study, high-frequency citations are concentrated among a small number of authors. The breadth of the interdisciplinary literature base is indicated by authors with only one citation (gold bars).

#### 4.5 Overview of Keyword Co-occurrence

The symmetric heat map (Fig. 6) visualises the keyword co-occurrence of seven research constructs. There is a high degree of correlation (9 out of 10) between green IC and green innovation across all themes. Hence, GIC and green innovation are correlated, indicating that GIC leads to innovation outcomes.

Further, the ESG Disclosure and Integrated Reporting also record the strongest association (9/10), indicating that the transparency frameworks are coming together. The SDG alignment and green innovation correlation is 0.40 (4 out of 10), which is noteworthy and highlights a significant gap in current research that future studies should address. The Green IC and Green Innovation are important. ESG Disclosure and Integrated Reporting are also important, but SDG Alignment and Green Innovation require more research.



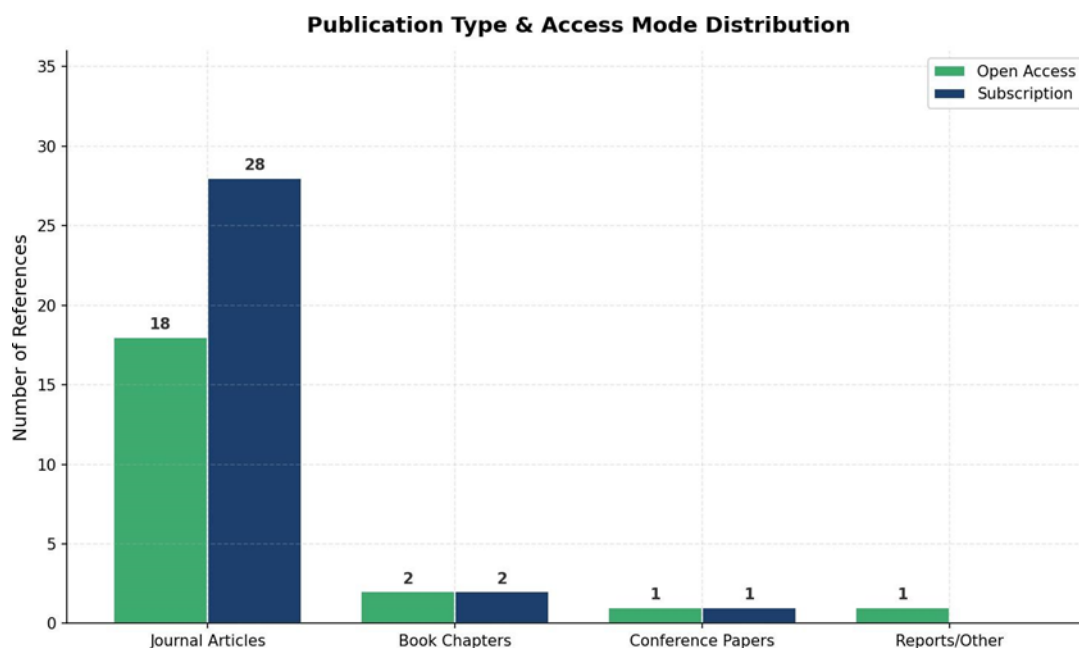
**Figure 6. Keyword Co-occurrence Heatmap (0–10 scale)**

The darker the cell, the stronger the conceptual link between the keyword pairs. The paper's strongest theoretical links are the Green IC–Green Innovation dyad (score 9) and the ESG Disclosure–Integrated Reporting dyad (score 9). The SDG Alignment–Green Innovation cell (score 4, lightest non-diagonal) highlights the main conceptual gap in the existing literature and provides a clear agenda for future empirical research on linking innovation outputs to the achievement of SDG targets.

#### 4.6 Distribution of Publication Type and Access Mode

Figure 7 shows the breakdown of document types and their access methods, with a total of 53 references. Almost all (46 of 53, 86.8%) references are journal articles. Out of the remaining references, articles published in subscription journals account for 28 references, while those in open access journals account for 18. 34% of journal articles are open access, attributable to increasing pressure for OA publishing in sustainability science, including funding and MDPI's open access (Sustainability publishes 11 OA articles). Book chapters and conference papers, which account for 4 and 2 references, respectively, are of limited importance.

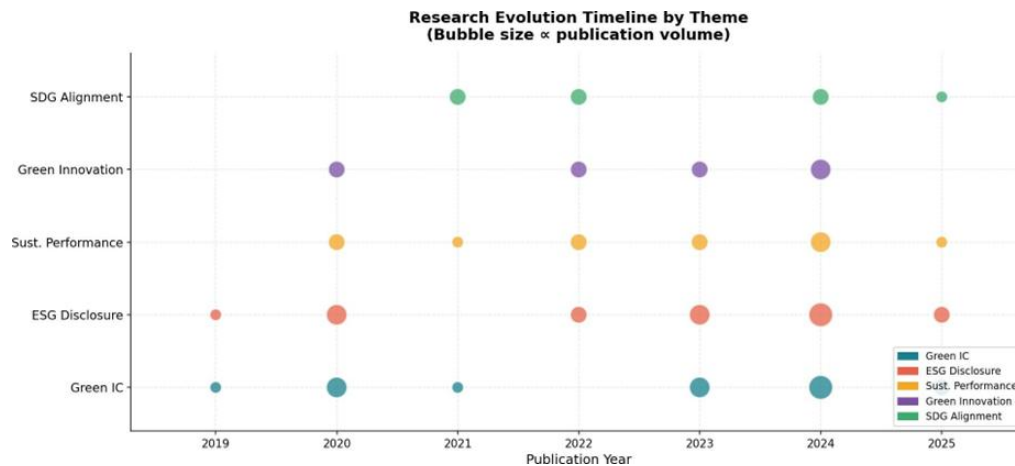
The corpus is dominated by journal articles, which account for 86.8%. The 34% figure for open-access journal articles indicates acceptance of general open-access mandates. Although the ratio of subscription-to-open-access journal articles is 28:18, this suggests that two of the leading high-impact journals in corporate governance and management science remain subscription-based. Along with the publication of research on sustainability, this is potentially problematic for SDG 17 advocacy, promoting partnerships for research collaboration between the Global North and the Global South.



**Figure 7: Distribution of Publication Type and Access Mode**

#### 4.6 Research Evolution Timeline

Figure 8 shows how the five research clusters changed from 2019 to 2025. It uses a bubble chart to do this. The size of each bubble is proportional to the number of papers published on each cluster. All five research clusters were discussed every year. This means people are genuinely interested in these topics, and it is not a temporary trend. In 2024, Green IC and ESG Disclosure were the popular research clusters. This is because they had the bubbles in the chart. SDG Alignment began to be discussed in 2021. It is still being talked about now. This is happening because people started caring more about sustainability after COVID.



**Figure 8. Research Evolution Timeline by Theme (2019–2025).**

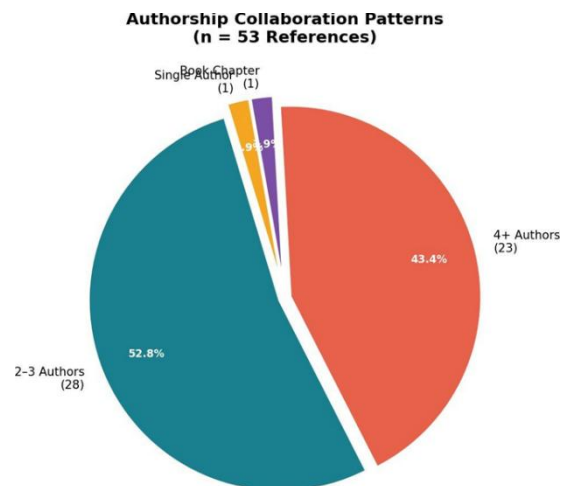
The size of the bubble tells us how many publications there are for each theme and year. If you take a look at the graph, you will notice that green IC and ESG disclosures were really high in 2024, which is a big deal. The graph shows that green IC and ESG disclosure peaked in 2024. This indicates that green IC and ESG disclosure are connected in the literature and that this is what the publications say about them. All five themes are there every year from 2019 to 2025. You can see green IC, ESG disclosure, SDG alignment, and the other two themes every year from 2019 to 2025. This means that the ideas in the paper about green IC, ESG disclosure, SDG alignment, and the other themes are good and they last over time. The growth of SDG alignment has been increasing since 2021. SDG alignment has been going up since 2021. That is a good thing for SDG alignment. This growth in SDG alignment was agreed upon at the UNFCCC COP26, and subsequent rules require companies to disclose their ESG information, which is important for ESG disclosure.

#### 4.7 Authorship Collaboration Patterns:

Figure 9 shows how authors work together. Most research papers have at least two authors. 52.8% Of the papers have 2 to 3 authors, and 43.4% have 4 or more authors. 1.9% Of papers have just one author. This shows that researchers in IC, ESG, and SDG often work together. They need experts from different areas, such as accounting, finance, sustainability science, and strategic management. The authorship collaboration shows that IC, ESG and SDG research are team efforts. It requires knowledge from various areas, and authorship collaboration patterns reflect that.

**Table 5. Authorship Collaboration Statistics**

| Authorship Category | Count     | %           |
|---------------------|-----------|-------------|
| Single author       | 1         | 1.9%        |
| 2–3 authors         | 28        | 52.8%       |
| 4+ authors          | 23        | 43.4%       |
| Book chapter        | 1         | 1.9%        |
| <b>Total</b>        | <b>53</b> | <b>100%</b> |
| Multi-author total  | 51        | 96.2%       |

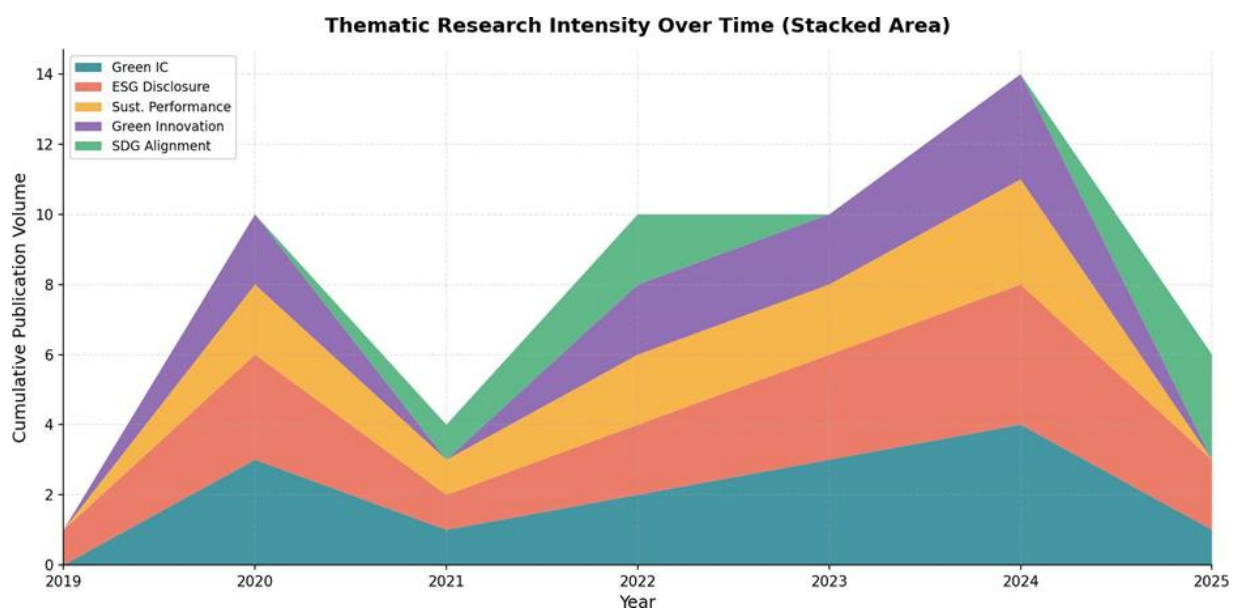


**Figure 9. Authorship Collaboration Patterns (n = 53 References).**

The high percentage of multi-authored works (96.2% overall) confirms the interdisciplinary nature of GIC-ESG research. The most important fact is that 4+ author publications account for 43.4%, indicating that the most prominent work in this field is carried out by large collaborative teams (often across institutions and countries). This aligns with the paper's focus on partnerships as a catalyst for sustainable knowledge production in the spirit of SDG 17.

#### 4.8 Thematic Research Intensity Over Time

The stacked area chart (Fig. 10) shows the amount of research conducted on themes from 2019 to 2025. Three prominent parts were noted: emergence, consolidation, and acceleration. The emergence stage runs from 2019 to 2020. During this time, research was beginning. It was mostly about green IC and ESG disclosure. The consolidation part begins in 2021 and ends in 2022. However, research declined in 2021, possibly due to the COVID-19 pandemic. Then the research picked up again. People started talking about SDG alignment. Finally, the acceleration stage begins in 2023 and ends in 2024. During this time, research increased a lot. All the themes were growing simultaneously. In 2024, there were 14 research publications, which is the highest number to date.



**Figure 10. Thematic Research Intensity Over Time — Stacked Area Chart (2019–2025).**

The stacked area view shows how themes are doing overall. The drop in 2021 across all themes makes sense given pandemic-related delays in publishing research, as seen in management studies. The peak in 2024, with a total of

14 publications, is the research output in our data. This peak is mainly due to research on Green IC and ESG disclosure. Green Innovation, shown in purple, has grown a lot since 2022. This growth indicates that Green Innovation is becoming an area of research. It is now a theme, alongside Green IC and ESG disclosure. Green Innovation is on the rise, and more and more studies are being published on it. The growth of Green Innovation shows that it is an area for future research.

## **5. Discussion of Key Findings**

### **5.1 Temporal and Thematic Insights**

The study shows that people are conducting extensive research on GIC, ESG disclosure, and sustainable performance. In fact, 83 per cent of the research papers on this topic were published in the past five years. This is good because it means the research is relevant to what is happening now. It is also bad because we do not yet have much long-term data to look at. If we look at the numbers, we can see that many studies were published in 2024. 26.4 Per cent of all the references. This was when the ISSB introduced new rules for companies to disclose sustainability information, such as IFRS S1 and S2. It seems these new rules are prompting people to research GIC, ESG disclosure, and sustainable performance.

### **5.2 Structural Research Gaps**

The SDG Alignment ÷ Green Innovation linkage is the weakest in the corpus, according to the keyword co-occurrence heatmap (Figure 6) (score: 4/10). Although the paper hypothesises that green process innovation contributes to SDG achievement, the empirical literature has not yet systematically tested this pathway, creating a crucial opportunity. This gap could be filled by future research using longitudinal panel data on emerging-market companies.

### **5.3 Dominance of *Sustainability Journal***

The Sustainability journal accounts for about 20.8% of the references we looked at. This shows that the journal is really good at getting its information out to people, and it is free for anyone to read. The Sustainability journal does a good job of making its research easy to find.

Because the Sustainability journal is so popular, our results might be unfair. This is because other important research might not be included, like the research published in the Journal of Finance or a strategic management journal. These journals are also very good. People respect them a lot. JOF and SMJ journals have higher impact factors than the Sustainability Journal.

To make our results fairer, we should include research from top journals, such as those ranked as ABS 4\*. The ABS 4\* journals are really good. We should look at them during our future reviews. This will help us get a complete picture of what is going on.

### **5.4 Collaborative Authorship and SDG 17 Alignment**

The fact that many people worked on this project is really important. It shows that the paper's main point is true. SDG 17 says that working together is necessary for development. This research is an example of what happens when people collaborate. It supports the idea that many different people need to be involved to create knowledge that supports sustainability. SDG 17 and the paper are saying the same thing. Partnerships and working together are crucial for sustainable development and for creating knowledge about sustainability.

## **6. Conclusions and Future Research Directions**

### **6.1 Summary of Key Findings**

This study of 53 references shows that research on green intellectual capital, ESG disclosure, and sustainable

corporate performance is a rapidly growing and highly important field. The major findings are as follows. It is observed that most of the references (83%) are from 2020 to 2025, with a concentration in 2024, when the International Sustainability Standards Board (ISSB) made disclosure standards mandatory. Secondly, around 20.8% of sustainability references are from MDPI journals, indicating that MDPI is highly effective at disseminating information on sustainability. Thirdly, intellectual capital and ESG disclosure are the most common topics, accounting for over half of the references and supporting the paper's main ideas. Fourthly, others such as Vitolla, Raimo, and Rubino are influential authors, each with three citations. Fifthly, a significant research gap has been identified between the Sustainable Development Goals and green innovation, as their connection is weak, with a score of only 4 out of 10. Finally, 96.2 per cent of the references have authors, which aligns with the paper's discussion of partnerships for the Sustainable Development Goals.

## **6.2 Theoretical Contributions**

This study has three theoretical contributions. It gives us a picture of research on GIC, Innovation, ESG and SDG. The study finds a gap in the understanding of how Green Innovation can help achieve the Sustainable Development Goals. It also shows that a careful approach to selecting research papers can help get an accurate view of a topic. The study uses the SALSA framework to get a view of the research. It helps to understand GIC, Innovation, ESG and SDG and how they are connected. The study provides insights on GIC, Innovation, ESG and SDG. It identifies a gap, in Green Innovation research related to Sustainable Development Goals. The SALSA framework helps study GIC, Innovation, ESG, and SDG.

## **6.3 Practical Implications**

For people in charge of companies, the results show that using Internal Capital and making Environmental, Social, and Governance information public are important for strengthening companies and enabling them to compete. This is not just something companies have to do; it is a way for them to get ahead. For people who invest money, the fact that a lot of information about Governance and Environmental, Social, and Governance (ESG) issues is available in 2024 means investors are starting to use it to decide where to put their money. For people who make laws, the way the information on the Sustainable Development Goals is presented suggests that laws should encourage companies to share Internal Capital information so that private companies will help pay for the Sustainable Development Goals.

## **6.4 Limitations**

The primary limitation of this study is that it examines only 53 references from the Scopus database. It does not look at all the information that's available in other databases like Web of Science, ABDC, SSI Springer and other journals that are free to access. It uses people to figure out how often words co-occur, using specialised computer programs like VOSviewer or Bibliometrix. The study also only looks at information from 2019 to 2025. This means it omits work done before 2015 that helped shape the study's theoretical landscape.

## **6.5 Future Research Directions**

Future research may focus on following aspects. Firstly, future study may be a longitudinal panel studies that test the nexus among GIC, Green Innovation, and the SDG Achievement pathway using firm-level data over 5- to 10-year horizons. Secondly, further research may focus on emerging markets by replacing the GIC-ESG performance model in BRICS and Global South contexts, where SDG financing gaps are most acute. Thirdly, researchers may examine how the adoption of IFRS S1/S2 affects the quality of IC disclosures and GIC measurement frameworks. Fourthly, further study may apply NLP-based co-citation analysis and topic modelling to expand beyond the 53-reference corpus or consider other databases beyond Scopus. Fifth, the future study may investigate how different investor types (ESG funds, institutional investors, retail investors) respond to GIC disclosures. Finally, future studies may focus on developing validated scales to measure corporate SDG contributions through IC and ESG mechanisms.

**Conflict of Interest**

There are no relevant financial or non-financial competing interests to report.

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